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New spiro-naphthopyran cpd. cpds. - useful as photochromic materials  
developing colour by UV light

Patent Assignee: TORAY IND INC (TORA )

Number of Countries: 001 Number of Patents: 001

10 Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 62195383	A	19870828	JP 8635323	A	19860221	198740 B

Priority Applications (No Type Date): JP 8635323 A 19860221

15 Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 62195383	A		5		

Abstract (Basic): JP 62195383 A

20 Sprionaphthopyran cpds of formula (I) are new each R<sup>2</sup>-R<sup>5</sup> are each 1  
1-4C alkyl, halogen-substd. 1-2C alkyl, 1-4C alkoxyl, halogen or nitro,  
each 1 and n = an integer of 0-2, each m and t = an integer of 0-4 and  
R' = 1-20C alkyl opt. substd., 3-10C cycloalkyl opt. substd., 7-20C  
aralkyl opt. substd. or 6-14C aryl opt. substd.

25 USE/ADVANTAGE - (I) are useful as photochromic materials with  
fatigue resistance of colour development and disappearance for  
printing, photography, optical equipment, recording, clothes and  
ornaments capable of colour development by UV light irradiation.

30 In an example, a soln. of 5g 1,3,3-trimethyl- 2-methylenebenz (g)  
indoline and 5g 2-hydroxy-1-naphthaldehyde in 100 ml ethanol was  
refluxed for 2 hours in N<sub>2</sub> flow and the reaction soln. was cooled,  
precipitating. To the precipitate, was added a small amt of ethanol and  
the mixt is filtered. The crude crystals were dissolved in ethanol, the  
35 soln was heated to 50-60 deg C, to the soln., was added 10g active  
carbon and the mixt was stirred and filtered. The filtrate is  
concentrated and the obtd solid was recrystallised from ethanol to give  
1,3,3-trimethylspiro (benz (g) indoline-2,3' -(3H)-naphtho(2,1-b)pyran)  
with a m.pt. of 204 deg.C.

40 Title Terms: NEW; SPIRO; NAPHTHO; PYRAN; COMPOUND; COMPOUND; USEFUL;  
PHOTOCHROMIC; MATERIAL; DEVELOP; COLOUR; ULTRAVIOLET; LIGHT

Derwent Class: E13; E24; G06

International Patent Class (Additional): C07D-491/10; C09K-009/00

File Segment: CPI

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